

REMARKS

In the Office Action, claims 1-27 were rejected. By the present response, claims 23 and 26 have been amended, as are the abstract, title and specification. Upon entry of the amendments, claims 1-27 will be pending in the present application. Reconsideration and allowance of all pending claims are requested.

Objections to the specifications

The title has been changed as suggested by the Examiner. The abstract has also been changed and the first line has been amended as suggested by the Examiner.

Rejections Under 35 U.S.C. § 112

Claims 1-27 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As suggested by the Examiner, the units of claim 23 have been inserted and the units of claim 26 have been corrected.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1-27 under 35 U.S.C. §103(a) as being unpatentable over Jones et al. (U.S. Patent No. 6,344,232, hereinafter "Jones").

Claim 1 is the only independent claim pending in the application. Claim 1 specifically recites *inter alia*, disrupting at least a portion of a flow of reactant from a path substantially parallel to a fiber path *to create a mixing flow adjacent the fiber*.

The Examiner recognized that Jones does not teach disrupting the reaction flow to obtain mixing as recited in claim 1. However, the Examiner pointed out that some mixing of the components introduced into the reaction chamber would be obvious. Even if that were the case, that would not sufficiently enable interruption of the flow adjacent to the fiber.

Claim 1 recites a method of coating a ceramic matrix composite (CMC) fiber that includes a step of passing the fiber through a reaction zone along a path substantially parallel to a longitudinal axis of the reaction zone. The claim also recites passing a flow of fiber coating reactant through the reaction zone. Finally, claim 1 recites disrupting the flow of reactant from a path substantially parallel to the fiber path to create a mixing flow adjacent the fiber.

Typically, such fibers are provided with a continuous coating to control interfacial shear strength between fibers and the ceramic material. The coating can be applied to the fibers by chemical vapor deposition (CVD). Single or multiple fiber tows are passed through the center of a vertical chamber, while a reactant gas is injected at the chamber bottom. Flow of gas in the chamber can be either counter to or in the same direction as movement of the tow and substantially parallel to the tow.

The Applicant has found that the interruption of flow adjacent to the fiber has been found to be particularly helpful to improve the coating. As described in the application:

According to the invention, the flow of gas is diverted to interrupt this at substantially parallel flow. The resulting turbulent mixing flow improves coating of the fiber tows with deposited reactant product. The flow is diverted by a disrupter that can be any structure in the path of reactant gas flow that disorders, agitates or mixes the normal substantial parallel course of reactant gas.

Application, page 3, lines 21-25.

The reference does not recognize the need for, and certainly does not teach interrupting the flow of gas adjacent to the fiber. Absent such teachings, Jones simply cannot anticipate claim 1 or the claims depending therefrom.

Conclusion

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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